DOCUMENT RESUME

ED 313 200 RC 017 337

TITLE	Status of Rural Education in the AEL Region. AEL Interim Report.
INSTITUTION	Appalachia Educational Lab., Charleston, W. Va.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	14 Jun 88
CONTRACT	400-86-0001
NOTE	25p.
AVAILABLE FROM	Appalachia Educational Laboratory, Inc., P.O. Box 1348, Charleston, WV 25325 ($3.50).
PUB TYPE	Reports - Research/Technical (143) -- Information Analyses (070)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Educational Improvement; *Educational Needs; Educational Practices; Elementary Secondary Education; *Regional Characteristics; *Rural Education; Rural Schools; Rural Urban Differences; Small Schools; Socioeconomic Influences
IDENTIFIERS	Appalachia Educational Laboratory WV; Kentucky; Promising Practices; Tennessee; Virginia; West Virginia

ABSTRACT

Examination of demographic, socioeconomic, and cultural factors in Kentucky, Tennessee, Virginia, and West Virginia, the four states served by the Appalachia Educational Laboratory (AEL), shows low student population density, endemic poverty, low educational attainment, and a population reluctant to seek outside help. This report reviews the characteristics, needs, and efforts to improve rural education in this region. Two critical problems involve students' thinking and reasoning skills and academic performance of children from low-income families. Educators also identify lack of community and parent involvement as serious problems. West Virginia data suggest that the teaching force is aging, though becoming somewhat more highly trained. Initial analysis suggests that student achievement is lower in rural than non-rural districts. Lower student achievement, however, appears to be associated with the comparatively greater poverty that characterizes rural areas. Resources to improve education in the AEL region are scarce. Difficulties in the region, however, have provided opportunities for such innovations as distance learning, school-based development, and development of curricular and instructional techniques appropriate to rural schools. Equity in school funding is crucial to adequate support of rural education. AEL is identifying promising practices, and communicating such information through a newsletter. A model of school improvement is presently being demonstrated in four poor, rural sites in the region. This report contains 19 references. (DHP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED313200

AEL INTERIM REPORT OF THE STATUS OF

RURAL EDUCATION IN THE AEL REGION

June 14, 1988

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Craig B. Howley

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

AEL

APPALACHIA EDUCATIONAL LABORATORY

RC 017337

BEST COPY AVAILABLE

The Appalachia Educational Laboratory (AEL), Inc., works with educators in ongoing R & D-based efforts to improve education and educational opportunity. AEL serves as the Regional Educational Laboratory for Kentucky, Tennessee, Virginia, and West Virginia. It also operates the ERIC Clearinghouse on Rural Education and Small Schools. AEL works to improve:

- professional quality,
- curriculum and instruction,
- community support, and
- opportunity for access to quality education by all children.

Information about AEL projects, programs, and services is available by writing or calling **AEL,** Post Office Box 1348, Charleston, West Virginia 25325; 800/624-9120 (outside WV), 800/344-6646 (in WV), and 347-0400 (local).

This publication is based on work sponsored wholly or in part by the Office of Educational Research and Improvement, U.S. Department of Education, under contract number 400-86-0001. Its contents do not necessarily reflect the views of OERI, the Department, or any other agency of the U. S. Government.

AEL is an Affirmative Action/Equal Opportunity Employer.

AEL INTERIM REPORT OF THE STATUS OF RURAL EDUCATION IN THE AEL REGION

Submitted to:

Office of Educational Improvement and Research
United States Department of Education
Washington, D. C., 20202

Submitted by:

Appalachia Educational Laboratory, Inc.
Post Office Box 1348
Charleston, West Virginia 25325

June 14, 1988

TABLE OF CONTENTS

Section

INTRODUCTION. 1

THE REGIONAL CONTEXT. 2

Demographics 2

Socioeconomic Factors. 3

Rural Life in States and Communities 6

THE NATURE OF RURAL EDUCATION NEEDS 7

CHARACTERISTICS OF RURAL EDUCATION IN THE AEL REGION. 9

Organization and Governance 9

Consolidation 10

Teachers 11

Students 12

EFFORTS TO IMPROVE EDUCATION IN THE REGION. 13

Opportunities for Change in the Region 13

State Policies and Practices 14

Promising Practices 15

REFERENCES 18

INTRODUCTION

This report, the Interim Rural Education Status Report of the Appalachia Educational Laboratory (AEL), is submitted to the Office of Educational Resarch and Improvement (OERI) as the deliverable specified as the "Status Report," described on page 50 of the Technical and Budget Proposal for the AEL Rural, Small Schools Program.

This report is AEL's contribution to a longer report to be prepared by OERI for submission to Congress scheduled for September 30, 1988. The present report is intended briefly to summarize what AEL has learned to date in a format specified by OERI. This report will be supplanted by a final report to be prepared in two parts, due on different dates, according to a plan described in AEL's FY 88 proposal for the Rural Education Initiative.

The present report is different from the Interim Progress Report, submitted to OERI by AEL on March 11, which, bound together with AEL's Quarterly Performance Report for the first quarter FY 88, served as the first annual report of the AEL's Rural, Small Schools (RSS) Program.

PART I
THE REGIONAL CONTEXT

The Appalachia Educational Laboratory (AEL) serves the states of Kentucky, Tennessee, Virginia, and West Virginia. There are comparatively few metropolitan areas in this Region.[1] Most are located on its periphery; the others are separated by at least 100 miles of rural territory, much of it hilly or mountainous. In the discussion that follows, "rural" school districts are defined as those in which at least 75 percent of residents live in non-metropolitan areas.

Demographics

Over half of all school districts in the AEL Region are rural, according to 1980 census statistics. In Kentucky, 54 percent of districts are rural, with an average student density in these districts of about 11 per square mile. Sixty percent of West Virginia districts are rural, with an even lower average student density figure--about 10 per square mile. In Tennessee, 46 percent of districts are rural, while in Virginia, 56 percent are rural. Though student density figures for Tennessee and Virginia have not yet been prepared for analysis, the average density for rural districts is probably about 10 or 11 students per square mile as well.

---

[1] The U. S. Office of Management and Budget describes "Standard Metropolitan Statistical Areas (SMSAs)" as areas that surround--and are economically integrated with--a population center of 50,000 or more.

Socioeconomic Factors

Americans are familiar with the plight of the nation's urban poor. We know less about our rural poor, however, even though their numbers make up a disproportionate percentage of the nation's poor. Forty percent of the nation's poor live in rural areas, and yet only 30 percent of the nation's population live in rural areas (Jensen, 1988). In the southeastern states, where AEL's Region is located, rural poverty is not only prevalent, it is persistent.

According to Rosenfeld, et al. (1985), "(The South) ... has been, and remains, the most rural region in the nation in terms of percentage of its population residing in rural areas.... Among metro and nonmetro regions of the nation, the rural South remains the poorest and weakest in human resources. It has, for example, the lowest per capita income, the highest rates of poverty, the lowest level of educational attainment, and the fewest doctors."[2] The per capita income of all states in the AEL Region falls below the national average of $8,637; it varies from about $7,000 in Kentucky, Tennessee, and West Virginia to about $8,500 in Virginia. This disparity has changed little since 1967 (Photiadis, 1983).

Personal income is a gauge of a community's ability to educate its children. Dividing the total amount of personal income available in the community by the number of students residing there is a measure of the environmental support available per child (see Table 1). Table 1 shows

---

[2] As defined by the Southern Growth Policies Board, which published the report cited, the "South" includes three of the four states served by AEL: Kentucky, Tennessee, Virginia, and West Virginia, whose percentage of rural districts is higher than the other three, shares many of these same characteristics.

the stark differences between income in rural areas and income elsewhere. "Rural" districts are defined as noted above; "poor" districts are those in which at least 25% of families are living below the poverty threshold, according to the 1980 census. These figures illustrate that personal income per student is far lower for rural communities than the state as a whole. Poor, rural districts are the poorest districts in these states.

Table 1

Personal Income Per Students[3]

	all districts	rural districts	poor districts	poor, rural districts
VIRGINIA	32194	27339	26112	23352
TENNESSEE	26323	23596	20966	19940
KENTUCKY	29312	23094	21549	19640
WEST VIRGINIA	27140	23585	20246	19141

To help readers get a geographic impression of the distribution of poor rural counties in the AEL Region, we have prepared Figure 1. It locates those rural counties that are in the bottom half for income among all rural counties. In addition, it also identifies the persistent poverty counties identified by the U.S. Department of Agriculture (see the discussion that follows Figure 1).

[3] Total personal revenue for the district, divided by the number of students in the district.

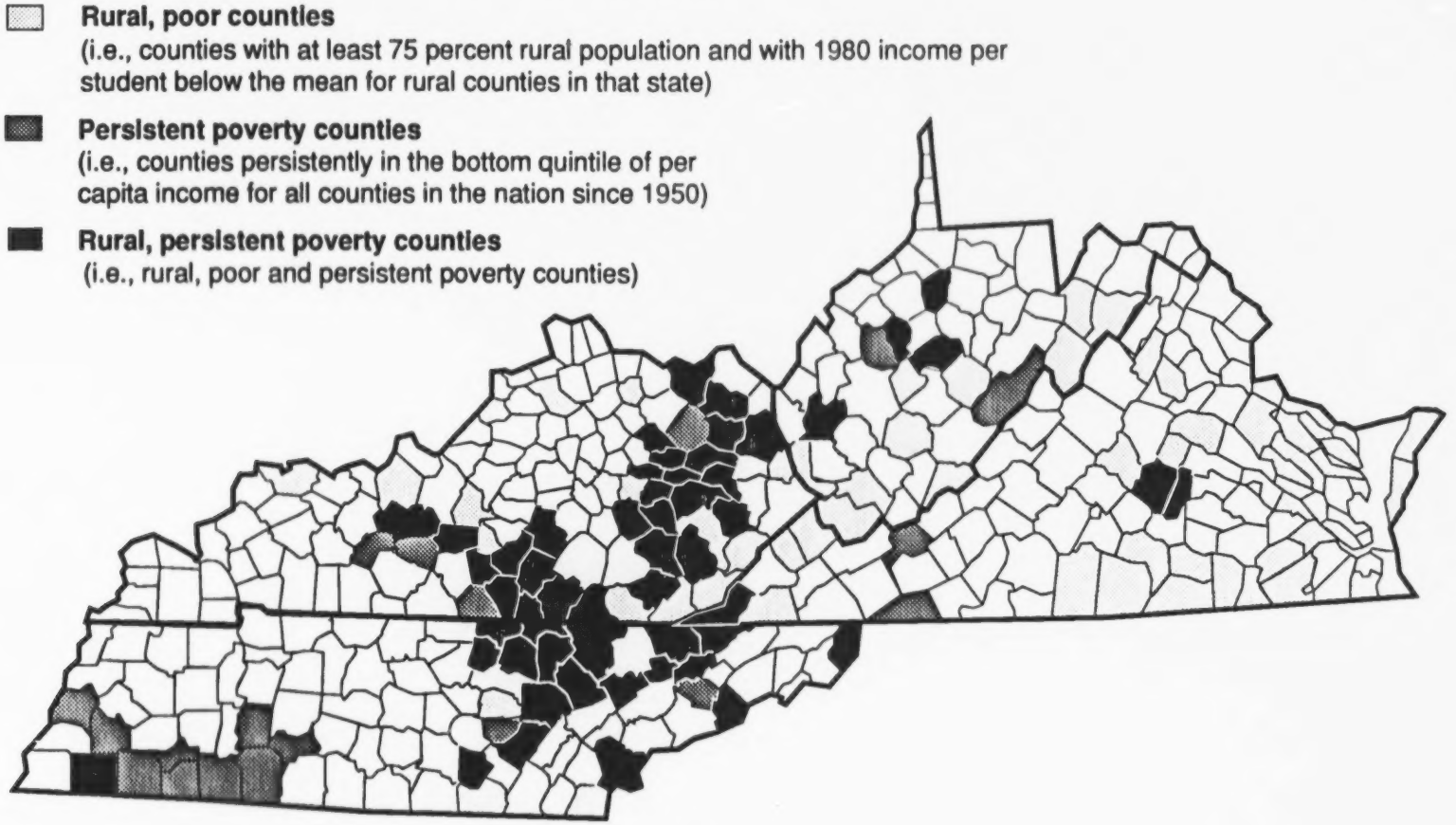
Rural, poor counties
(i.e., counties with at least 75 percent rural population and with 1980 income per student below the mean for rural counties in that state)
Persistent poverty counties
(i.e., counties persistently in the bottom quintile of per capita income for all counties in the nation since 1950)
Rural, persistent poverty counties
(i.e., rural, poor and persistent poverty counties)

Figure 1.
Rural, Poor and Persistent-Poverty Counties in the AEL Region

Rural Life in States and Communities

Also shown in Figure 1 are the counties identified by the U. S. Department of Agriculture as persistent poverty counties--counties that have repeatedly ranked in the lowest per capita income quintile since 1950 (Bender et al., 1985). There are 242 persistent poverty counties in the nation; 73 of them--about 30 percent--are located in AEL's four-state region.

Persistent poverty counties share these characteristics:

- a sparse and non-urban population settlement pattern;
- low income levels that have persisted for decades; and
- disproportionate numbers of people with disadvantages affecting their ability to participate in the labor force.

Nationally, only 42 percent of persistent poverty county residents aged 25 and over had completed high school in 1980. Nearly 15 percent of persons aged 16 through 64 reported a work-limiting disability (Bender et al., 1985).

Despite these characteristics of rural life--which might seem grim to some outsiders--rural residents are typically proud, and they are typically reluctant to seek outside help. Recent research (Jensen, 1988) suggests that the stereotypical image of a rural resident--hard-working, home-owning, and older -- are accurate. In general, self-reliance is a characteristic of rural communities. This fact suggests that any efforts to improve rural schools or rural communities must actively cultivate "ownership" of the effort by rural residents.

PART II
THE NATURE OF RURAL EDUCATION NEEDS

Although rural, small schools have many problems, and many strengths, the greatest number of needs and the most intense needs are found in the Appalachia and rural Southeast regions of the nation. In 1987, the National Rural, Small Schools Task Force reported:

> The Appalachian and Southeastern regions share the bulk of serious problems confronting rural, small schools. To an extent that far exceeds respondents from other regions, the Southeastern and Appalachian educators not only cite more problems, but the problems they point to are in greater need of attention. (p.10)

For the AEL four-state Region, the two most critical problems identified by this survey related to (1) students' thinking and reasoning skills; and (2) academic performance of children from low-income families.

Most of the other high ranking needs, identified as such by over half of the AEL Region educators, involved student academic performance in the basic subjects of reading, science, mathematics, social studies, and the language arts. Other concerns included low student self-esteem, school attendance, and low adult expectations for student academic success.

It is important to note that educators also believed lack of community and parent involvement in the educational process to be a serious problem. Given what is known about the demography and culture of the Region, this perception represents a critically important need. In a sense, it encompasses all the other perceived needs.

None of these high ranking regional needs was identified by half or more of the educators in the national survey results. In fact, the contrast between the AEL Region and the nation as a whole would be <u>even more pronounced</u> if Regional data were removed from the national totals.

The results of the National Task Force study of rural, small schools resemble those identified by AEL in a 1987 Regional needs assessment (AEL, 1987), although that needs assessment was not restricted to rural educators. Among the important comparable needs were the following:

- programs to improve students' higher-order thinking skills (cf. "students' thinking and reasoning skills," above);
- special programs for at-risk youth (cf. "academic performance of low-income students," above);

The accord between results of these two needs assessments is not surprising, since rural, small schools predominate in the AEL Region.

The observed needs are both severe and numerous; they cannot be met by haphazardly targeting resources to a particular need on a regionwide basis. What is needed is a model flexible enough to address a wide variety of needs and at the same time be sufficiently well-structured to identify local priorities and provide a local forum for planning and action. AEL's RSS Program is based on premises that reflect this interpretation of Regional educational needs.

PART III
CHARACTERISTICS OF RURAL EDUCATION IN THE AEL REGION

This discussion of the characteristics of rural education in the AEL Region briefly examines the organization of rural school districts, the progress of consolidation, and the characteristics of teachers and students in rural schools. The gathering of available information on all characteristics is, however, not yet complete. Efforts to gather and analyze data will continue under the terms of the FY 88 rural education initiative.

Comparable data, however, are simply not available to describe all characteristics of education for which information might be desired. Information currently available to us describes West Virginia and Kentucky most completely.

Organization and Governance

As noted above, the majority of school districts in the AEL Region are located in nonmetropolitan areas. For the most part, these rural districts are organized as county units. In both Kentucky and Tennessee, 90% of the rural districts are organized as county districts; in Virginia 92% of the rural districts are organized as counties. In West Virginia, in many ways the most rural of the states in the Region, all school districts are organized as county districts. By contrast for Kentucky, Tennessee, and Virginia only 42%, 46%, and 31% of non-rural districts are county districts, respectively.

What can be the cause of this mode of organization? Several observers believe that the cause is the special need for cost efficiency in rural areas, where local resources to fund education are meager (Sher,

1977, 1988; Phelps, 1988; Tyack, 1974). An analysis of our Kentucky data suggests that county districts tend to spend less than would be expected on the basis of the socioeconomic characteristics of the district, that is, they are quite cost efficient (Howley, forthcoming).

Consolidation

The predominance of county organization among rural districts reflects the history of consolidation there. The number of school districts in the U.S. has declined by 90% since 1900 (Smith & DeYoung, 1988). In our West Virginia demonstration site, the current superintendent, who was raised in that county, reports that approximately 90 schools have been closed since 1950. Six schools remain.

Among the observers of this trend, David Tyack has been the most eloquent. According to him, rural schools are part of "the one best system" of school organization that has evolved since 1900 (Tyack, 1974). That form of organization reflects the needs of an urban culture, according to Tyack.

Our data suggest that rural and nonrural schools are at least about the same size. Consolidation has, for example, produced in Kentucky rural schools a size approximately equal to that of nonrural schools. The sparsely-populated rural county districts have, on average, seven schools, with an average enrollment of 470. The more densely populated nonrural county districts have, on average, 14 schools, with an average enrollment of 560 (Meehan, 1988). We believe this observation characterizes rural schools in the other states as well.

For the time being, the county line looks like the limit of consolidation, but that situation may change. In West Virginia (where all

districts are already organized as county units), some educators and legislators have discussed the consolidation of counties into regional districts, as a possible way to conserve dwindling resources. If policymakers are looking for cost efficiency, this may be a way, though some scholars believe that consolidation has already squeezed the law of diminishing returns for whatever savings are possible (Monk, 1987; Sher, 1977; Nachtigal, 1982; Smith & DeYoung, 1988). Whether or not an increased emphasis on cost-efficiency will negatively affect student achievement has not factored significantly in the discussions.

Teachers

Among these states, West Virginia seems to publish the most complete description of its teaching force. The trends observed there may apply to the Appalachian portion of AEL's Region since all counties in West Virginia are classified as Appalachian. It is important to note, however, that the motive to analyze characteristics that describe teachers is not so strong as the motive to describe a district's socioeconomic characteristics. Student achievement has not been shown to depend strongly on teacher indicators such as years of experience, advanced degrees, or level of certification (Walberg & Fowler, 1987; Sher, 1988). Socioeconomic characteristics, however, are almost always influential.

West Virginia data suggest that the teaching force is aging and is becoming somewhat more highly trained (West Virginia Department of Education, 1987). The number of teachers with over 10 years experience increased by about 3.5% between 1981 and 1986. The number of teachers with coursework above the masters level also increased by about 1% in that period. The number of teachers with less experience and less training

both declined in that period by about 2%. There were, however, substantial differences among counties, and it is probably true that rural districts differ from non-rural districts in some ways on these measures (cf. Sher, 1988).

Students

Some sense of how student achievement varies among types of districts is important for policy decisions. Hence, RSS staff have collected published data from the states. So far, data have been prepared for analysis in West Virginia and Kentucky.

Exploratory analyses of these data suggest that student achievement in rural districts is lower than in non-rural districts. In Kentucky, for example, this finding holds regardless of the type of test (criterion-referenced or norm-referenced), level (primary or high school), or type of score (NCE units or percent of students passing criterion).

The data in these analyses, however, are not controlled for the socioeconomic characteristics of rural districts. On average, the poverty rate of rural areas resembles that of central cities (Jensen, 1988). Moreover, average personal income per student (compare the discussion of per capita income in Part I) in rural districts in Kentucky, for example, is about $23,000, whereas in non-rural districts it is about $36,000. Clearly, environmental support for students in rural districts is less than it is elsewhere.

In Kentucky, moreover, it seems that the level of student achievement is inversely related to cost-efficiency, county districts tend to be cost-efficient, and rural districts tend more than other types of districts to be county districts. These findings suggest that rural

districts need some extra help if our society is to underwrite student achievement adequately in rural areas.

PART IV
EFFORTS TO IMPROVE EDUCATION IN THE REGION

Resources to improve education in the AEL Region are scarce. There are no independent R&D institutions here, partly as a result of the Region's socioeconomic characteristics. Recent interest in rural education, generated in part by the Rural Education Initiative sponsored by Congress has, however, sharpened interest among all parts of the education community in the AEL Region.

Opportunities for Change in the Region

Opportunities for change exist alongside, and perhaps as part of, factors that impede change in the rural schools of this Region. For example, the basic characteristic of rural demography--sparse population--has been viewed as restricting the scope of high school course offerings in rural areas. The standard approach to solving the problem in rural areas has been to consolidate schools to make them larger.

Nonetheless, the results have not satisfied some educators in the Region, who regard rural schools as still too small (Austin, 1988, July 2; Monk, 1987, 1988). This situation, however, is an opportunity for advocates of distance learning, and each of the states has taken steps to solve some of the perceived problems by facilitating the use of distance learning.

Structural changes in the economy are associated with other opportunities. For example, the decline of secondary manufacturing in

states in the Region (Rosenfield, 1985), while regrettable, provides an opportunity for school-based development (Sher, 1988).

Cultural values that may contribute to a high dropout rate (e.g., a skeptical view of book learning), point in many cases to the existence of rural communities with intact identities. Such communities can provide an impetus to the development of curriculum and instructional techniques appropriate to rural schools (e.g., Wigginton, 1985).

The popular political view that schools must be the source of good human capital in order to safeguard the economic health of the nation holds other opportunities. Rural educators and parents, particularly in West Virginia and Kentucky, have brought the issue of fiscal equity to court, in a search for the sort of support our data suggest is required if rural schools are to produce good human capital. Moreover, all of the states have adopted reform measures that focus the interest of the public on the performance of the schools.

Whether or not these opportunities are exploited by rural educators and citizens will depend in part on their own resourcefulness, and in part on the alliances they make with others. Several projects underway in the Region--including AEL's demonstration of the Community Partnership for School Improvement model--demonstrate that these opportunities are viewed seriously by those most concerned with rural education.

State Policies and Practices

The policies and practices that might facilitate change in rural schools in the AEL Region, in the absence of a thorough policy analysis, are most likely to be those cited in the literature on rural education generally. Equity in school funding is a familiar theme, both in the

literature (Nachtigal, 1982; Sher, 1977, 1988) and in the Region. As noted above, the equity of support for rural schools has been an issue in both Kentucky and West Virginia, and a similar move is reported to be underway in Tennessee. This issue can be addressed in the formulas states in this Region use to distribute the bulk of the monies on which schools here operate.

To our knowledge, none of these states has a law that would provide additional support to schools that are "necesarily remote" (cf. Sher, 1977). Each of the states, however, has small, isolated rural schools whose fate is uncertain, given the tendency to consolidate units that are not perceived to be cost-efficient.

Each of the four states in the Region is taking steps to make use of the technology of distance learning. All are facilitating the provision of services to at least some rural schools.

In the process of reform underway at least since 1983, all of the states have implemented a variety of models of professional development for educators. These vehicles, however, are not intended specifically to provide services to rural schools. If history is a guide, such services may generally be less available to rural educators than to others. Under the strong leadership of their superintendents, however, educators in AEL's rural demonstration sites have participated actively in state-sponsored professional development.

Promising Practices

One strategy being used by AEL's RSS Program to help address critical educational needs is to identify promising practices in the AEL Region and help schools to implement these practices. RSS staff have sought

nominations widely throughout the AEL Region. Over 100 nominations of promising practices have been collected and are being prepared for the evaluation and selection process that must precede dissemination.

Information about innovative activities and ideas emerging in rural, small schools is being communicated to over 500 rural educators in the Region through the AEL newsletter, The Link. Four issues of a supplement to the newsletter have been developed and distributed. A fifth issue is in preparation.

A model sufficiently flexible and well-structured to help local communities actively engage in school improvement (the Community Partnership for School Improvement) has been designed by AEL. The design of the model was guided by advice gathered from experts in rural education in the AEL Region.

The model is presently being demonstrated in four sites (one site in each of AEL's four states). Each demonstration site shares the characteristics of ruralness, smallness, and poverty. Three are persistent poverty counties (see Part I, above). And yet, these places are very different from one another. The communities there perceive different needs; their citizens interact in different ways; their economic bases are quite different; their racial composition differs; and, their schools reflect these differences.

Alan DeYoung, of the University of Kentucky, is conducting an impact study of AEL's work in the four demonstration sites. The study relies primarily on the qualitative techniques of anthropology, an appropriate technique for studying the relationship of rural schools and their communities. An early indication of the success of the School-Community

Partnership model has been obtained through field interviews where involved community members have stated that they feel the partnership gives them greater access to school decisionmaking.

REFERENCES

Appalachia Educational Laboratory. (1987). Needs and capabilities assessment report. Charleston, WV: Author.

Austin, C. (1988, July 2). Many high schools too small for comprehensive curriculum. Charleston Gazette, p. 8A.

Bender, L., Green, B., Hady, T., Kuehn, J., Nelson, M., Perkinson, L., & Ross, P. (1985). The diverse social and economic structure of nonmetropolitan America. Washington, DC: US Department of Agriculture, Economic Research Service.

Howley, C. (forthcoming). Efficiency and the characteristics of school districts: A study of 178 Kentucky districts.

Jensen, L. (1988). Rural-urban differences in the utilization and ameliorative effects of welfare programs. Paper presented at the Annual Meeting of the Southern Rural Sociological Association, New Orleans, LA, February 2, 1988.

Meehan, M. L. (1987). A demographic study of rural, small school districts in four Appalachian states. (Occasional paper 025) Charleston, West Virginia: Appalachia Educational Laboratory.

Monk, D. (1988). Disparities in curricular offerings: Issues and policy alternatives for small rural schools. Unpublished manuscript.

Monk, D. (1987). Secondary school size and curriculum comprehensiveness. Economics of Education Review, 6(2), 137-150.

Monk, D., & Haller, E. (1986). Organizational alternatives for small rural schools. Ithaca, NY: Cornell University.

National Rural, Small Schools Task Force. (1987). Building on excellence. Washington, DC: Council for Educational Development and Research.

Photiadis, J. (1983). Community and family change in rural Appalachia. Morgantown, WV: Center for Extension and Continuing Education of West Virginia University and the Appalachia Educational Laboratory.

Rosenfeld, S. A. (1985). After the factories: Changing employment Patterns in the rural south. Research Triangle Park, NC: Southern Growth Policies Board.

Sher, J. (Ed.). (1977). Education in rural America: A reassessment of the conventional wisdom. Boulder, CO: Westview Press.

Sher, J. (1988). Class dismissed: Examining Nebraska's rural education debate. Lincoln, NE: Nebraska Rural Community Schools Association.

Smith, D. & DeYoung, A. (1988). Big school vs. small school: Conceptual, empirical and political perspectives on the re-emerging debate. Journal of Rural and Small Schools, 2(2), 2-11.

Tyack, D. (1974). The one best system. Cambridge, MA: Harvard University Press.

Walberg, H. & Fowler, W. (1987). Expenditure and size efficiencies of public school districts. Educational Researcher, 16(7), 5-13.

West Virginia Department of Education. (1987). West Virginia report card: Educational trends (1981-1982, county data, technical report). Charleston, WV: Author.

Wigginton, E. (1985). Sometimes a shining moment: The Foxfire experience. Garden City, NY: Anchor Press/Doubleday.